

LONDON- WEST MIDLANDS ENVIRONMENTAL STATEMENT

Volume 5 | Technical Appendices

CFA7-15 | Colne Valley to Lower Boddington
Register of local level effects (EC-005-002)
Ecology

November 2013

LONDON- WEST MIDLANDS ENVIRONMENTAL STATEMENT

Volume 5 | Technical Appendices

CFA7-15 | Colne Valley to Lower Boddington

Register of local level effects (EC-005-002)

Ecology

November 2013



Department
for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

A report prepared for High Speed Two (HS2) Limited.

High Speed Two (HS2) Limited,
Eland House,
Bressenden Place,
London SW1E 5DU

Details of how to obtain further copies are available from HS2 Ltd.

Telephone: 020 7944 4908

General email enquiries: HS2enquiries@hs2.org.uk

Website: www.hs2.org.uk

High Speed Two (HS2) Limited has actively considered the needs of blind and partially sighted people in accessing this document. The text will be made available in full on the HS2 website. The text may be freely downloaded and translated by individuals or organisations for conversion into other accessible formats. If you have other needs in this regard please contact High Speed Two (HS2) Limited.



Printed in Great Britain on paper
containing at least 75% recycled fibre.

Contents

Appendix EC-005-002	1
1 Introduction	2
2 Local and Parish Level Effects	3

List of figures
No table of figures entries found.

List of tables	
Table 1: Summary of local/parish level adverse effects arising from the construction/operation of the Proposed Scheme within CFA7 to CFA15	3

Appendix EC-005-002

Environmental topic:	Ecology	EC
Appendix name:	Register of local level effects (CFA 7 to 15)	005-002
Community forum areas:	<p>CFA7: Colne Valley;</p> <p>CFA8: The Chalfonts and Amersham;</p> <p>CFA9: Central Chilterns;</p> <p>CFA10: Dunsmore, Wendover and Halton;</p> <p>CFA11: Stoke Mandeville and Aylesbury;</p> <p>CFA12: Waddesdon and Quainton;</p> <p>CFA13: Calvert, Steeple Claydon, Twyford and Chetwode;</p> <p>CFA14: Newton Purcell to Brackley; and</p> <p>CFA15: Greatworth to Lower Boddington.</p>	

1 Introduction

- 1.1.1 This document is an appendix which forms part of Volume 5 of the environmental statement (ES) for the Proposed Scheme. Table 1 provides a summary of anticipated local/parish level adverse effects on ecological receptors arising from the construction and operation of the Proposed Scheme for the following community forum area (CFA):
- CFA7: Colne Valley;
 - CFA8: The Chalfonts and Amersham;
 - CFA9: Central Chilterns;
 - CFA10: Dunsmore, Wendover and Halton;
 - CFA11: Stoke Mandeville and Aylesbury;
 - CFA12: Waddesdon and Quainton;
 - CFA13: Calvert, Steeple Claydon, Twyford and Chetwode;
 - CFA14: Newton Purcell to Brackley; and
 - CFA15: Greatworth to Lower Boddington.
- 1.1.2 The document should be read in conjunction with Volume 2 (Community forum area reports), Volume 3 (Route wide effects assessment) and Volume 4 (Off-route effects assessment).

2 Local and Parish Level Effects

Table 1: Summary of local/parish level adverse effects arising from the construction/operation of the Proposed Scheme within CFA7 to CFA15

CFA	Habitat, species or species group	Receptor/location	Effect arising from construction or from operation?	Description of effect prior to 'other mitigation'	Effect addressed by mitigation and/or compensation proposed (Yes/no)
CFA7	Standing water	Standing water in Korda Lake, Harefield Moor Lake, the Long Pond, Savay Lake and Harefield No. 2 Lake.	Construction	Approximately 7ha of standing water will be covered by jetties used for construction of the viaduct for up to four years. Approximately 2ha of standing water will be permanently lost where viaduct pile caps are constructed.	No
CFA7	Wetland	Swamp vegetation at various locations including Korda Lake, Harefield Moor Lake, the Long Pond, Savay Lake, Harefield No. 2 Lake and Denham Quarry Lake.	Construction	Permanent loss of approximately 0.75ha of swamp vegetation due to the construction of the viaduct.	Yes
CFA7	Wetland	Swamp vegetation along the River Colne.	Construction	Permanent loss of approximately 0.5ha of swamp vegetation due to the construction of the viaduct and realignment of overhead power lines.	Yes
CFA7	River	Newyears Green Bourne, west of Harvil Road near Dews Farm.	Construction	Scrub and tall ruderal vegetation will be removed from the banks of about 400m of the Newyears Green Bourne. A short length of the river channel will be placed in a culvert under Harvil Road.	Yes
CFA7	Woodland	Broadleaved plantation woodland at Denham Grove (De Vere Hotel).	Construction	Permanent loss of 4ha of young broadleaved plantation woodland due to the construction of the viaduct.	Yes
CFA7	Grassland	Poor semi-improved grassland in two un-surveyed fields close to Moorhall Road.	Construction	Permanent loss of approximately 1ha of poor semi-improved grassland where construction compounds will be located.	Yes

CFA7	Grassland	Poor semi-improved grassland in two un-surveyed fields close to Moorhall Road, and also along the narrow causeway between Broadwater Lake and the River Colne.	Construction	Permanent loss of approximately 0.5ha of poor semi-improved grassland where the viaduct will be constructed.	Yes
CFA7	Grassland	Improved grassland between the M25 and the A412 Denham Way/North Orbital Road and east and west of Harvil Road.	Construction	Permanent loss of approximately 2ha of improved grassland within the land required for the construction of the Proposed Scheme.	No
CFA7	Grassland	Amenity grassland	Construction	There will be permanent loss of approximately 1ha of amenity grassland throughout the area.	No
CFA7	Hedgerows	Farmland west of Harvil Road and east of South Harefield	Construction	Permanent loss of approximately 4.5km of hedgerow habitat.	Yes
CFA7	Hedgerows	Hedgerows between the M25 and the A412.	Construction	Permanent loss of 2.5km of hedgerow within the land required for the construction of the Proposed Scheme.	Yes
CFA7	Scrub	Scrub adjacent to farmland and woodland close to the M25.	Construction	Several patches of scrub (less than 1ha) will be removed during the construction of the viaduct.	Yes
CFA7	Scrub	Scrub adjacent to farmland and woodland close to the M25.	Construction	Several patches of scrub (less than 1ha) will be removed during the construction of the viaduct.	Yes
CFA7	Ponds	There are about three ponds in land which could not be accessed in Uxbridge Golf Course, Buckinghamshire Golf Course (counted from OS maps/aerial photos).	Construction	As part of a precautionary assessment it is assessed that the realignment of National Grid power lines will remove at least three ponds.	Yes
CFA7	Ditches	South of the Chiltern Railways line: in Uxbridge Golf Course and west of the Grand Union Canal.	Construction	Where National Grid power lines will be realigned ditch vegetation either side of these four ditches will be cleared.	Yes
CFA7	Arable	Arable farmland between the M25 and the A412 Denham Way/North Orbital Road and east and west of Harvil Road.	Construction	Permanent loss of 178ha of arable farmland within the land required for the construction of the Proposed Scheme.	Yes (where reverted to agriculture) No (small areas under permanent infrastructure)

CFA7	Birds	Breeding birds between the A412 Denham Way/North Orbital Road and M25.	Construction	Construction of the Tilehouse Lane cutting and the Chiltern Tunnel South approach embankment and associated compounds will remove foraging and nesting habitat for breeding birds.	Yes
CFA7	Birds	Breeding birds between the A412 Denham Way/North Orbital Road and M25.	Operation	Incidental mortality of small numbers of birds associated with in line-side habitats.	No
CFA7	Plants	Small teasel in between the River Colne and Korda Lake and Harefield Moor Lake.	Construction	A population of this species is in land required for construction of the Proposed Scheme.	Yes
CFA7	Fish	Fish assemblage in the River Colne.	Construction	North of Moorhall Road, 170m of the River Colne will be modified to flow beneath two viaduct piers. In the same location, bankside aquatic vegetation, which may be used by fish for sheltering and foraging will also be cleared from about a 700m stretch. South of Moorhall Road, bankside aquatic vegetation, which may be used by fish for sheltering and foraging may be removed from about 500m of the River Colne where the National Grid overhead power lines will be realigned. Noise and vibration caused by piling of viaduct piles may disturb local fish populations.	Yes (habitat loss)
CFA7	Fish	Fish assemblage in Korda Lake, Harefield Moor Lake, Long Pond, Harefield No. 2 Lake and Savay Lake (includes the Mid Colne Valley SSSI).	Construction	Noise and vibration caused by piling of viaduct piles may disturb local fish populations.	No
CFA7	Aquatic macro-invertebrates	Aquatic macro-invertebrate assemblage of River Colne.	Construction	Viaduct construction will cause loss of bankside aquatic vegetation which may be used for foraging or sheltering.	Yes
CFA7	Badger	Throughout the Colne Valley area.	Construction	Loss of parts of at least three badger territories. Loss of foraging habitat. Several outlying setts will also be removed.	Yes
CFA7	Badger	Throughout the Colne Valley area.	Operation	Risk of incidental mortality of badgers as a result of collision with passing trains.	Yes

CFA7	Reptiles	A small grass snake population at Northmoor Pumping Station (north of Tilehouse Lake South).	Construction	Foraging and basking habitat in land required for construction of the Proposed Scheme will be removed.	Yes
CFA8	Hedgerows	Near Ashwells Farm and Bottom House Farm Lane.	Construction	About three kilometres of hedgerow will be removed.	Yes
CFA8	Grassland	Improved grassland	Construction	About 13ha of this habitat will be removed where vent shafts and their associated satellite compounds are constructed.	Yes (where reverted to agriculture) No (small areas under permanent infrastructure)
CFA8	Grassland	Poor semi-improved grassland.	Construction	About 10ha of this habitat will be removed where vent shafts and their associated satellite compounds are constructed.	No
CFA8	Pond	Close to Ashwells Farm	Construction	A single pond will be removed.	Yes
CFA8	Birds	Breeding birds assemblages north of Chalfont St Peter.	Construction	Hedgerow, grassland and arable farmland will be removed, there, will be a local decline in the diversity and abundance of common bird species.	Yes
CFA8	Amphibians	Two small great crested newt populations near the Chalfont St Peter vent shaft.	Construction	No ponds will be removed but small areas of terrestrial foraging and sheltering habitat will be removed when the Chalfont St. Peter vent shaft and associated satellite compound is constructed.	Yes
CFA8	Bats	Bat assemblage using linear woodland, hedgerows and a tree-lined road near the Chalfont St Peter vent shaft.	Construction	Vent shaft construction will remove small areas of foraging habitat and short sections of hedgerow which may be used for commuting.	Yes
CFA8	Bats	Potential bat assemblage using a network of well-connected hedgerows and woodland for foraging and commuting around the Amersham vent shaft and Chalfont St Giles vent shaft.	Construction	Vent shaft construction will remove small areas of foraging habitat and short sections of hedgerow which may be used for commuting.	Yes
CFA8	Bats	Brown long-eared population associated with roosts at Lower Park and Ashwell's Farm.	Construction	Vent shaft construction will remove small areas of foraging habitat and short sections of hedgerow which may be used for commuting.	Yes
CFA8	Reptiles	Grass snake population near the Chalfont St Peter vent shaft	Construction	Loss of foraging and sheltering habitat.	Yes

CFA8	Reptiles	Grass Snake population at Shardeloes Lake	Construction	In the unlikely event that precautionary hydrological mitigation measures are required foraging and sheltering habitat may be removed from the banks of the River Misbourne.	Yes
CFA8	Badger	Potential for low badger populations throughout the area.	Construction	Loss of foraging habitat around vent shaft and vent shaft satellite compound sites.	Yes
CFA9	Orchards	Orchard at Park Farm	Construction	About 0.2ha of orchard will be removed by the Proposed Scheme.	No
CFA9	Grassland	Semi-improved neutral grassland at Mulberry Park Hill.	Construction	Approximately 5ha of semi-improved neutral grassland will be removed by the Proposed Scheme.	Yes
CFA9	Grassland	Two areas of semi-improved grassland near Mantle's Farm	Construction	Approximately 1.5ha of semi-improved neutral grassland will be removed by the Proposed Scheme.	Yes
CFA9	Grassland	Semi-improved grassland at Woodlands Park north of Great Missenden.	Construction	Approximately 1.0ha of semi-improved neutral grassland will be removed by the Proposed Scheme.	Yes
CFA9	Arable	Arable and cultivated land throughout the area	Construction	106ha of arable and cultivated land will be removed by during construction of the Proposed Scheme.	Yes (where reverted to agriculture) No (small areas under permanent infrastructure)
CFA9	Ponds	Four ponds east of Potter Row	Construction	Four ponds will be removed by the Proposed Scheme.	Yes
CFA9	Ponds	Pond near Mantles Farm.	Construction	A single pond will be removed by the Proposed Scheme.	Yes
CFA9	Parkland with scattered trees	Parkland with scattered trees near Jenkin's Wood and Havenfield Wood.	Construction	Approximately 1.5ha will be removed by the Proposed Scheme.	Yes
CFA9	Great crested newt	Potential great crested newt populations in two ponds in the vicinity of Browns Road.	Construction	No potential breeding ponds will be lost but small areas of terrestrial habitat used for foraging and sheltering will be removed.	Yes
CFA9	Great crested newt	A small population north of Mantle's Wood.	Construction	Loss of a breeding population together with surrounding foraging and sheltering habitat.	Yes

CFA9	Badger	Throughout the area.	Construction	Loss of one outlier sett. Small areas of foraging habitat will be lost from a single main sett which may be part of the same territory as the outlier.	Yes
CFA9	Badger	Throughout the area.	Construction	Risk of incidental mortality of badgers as a result of collision with passing trains.	Yes
CFA10	Pond	Four ponds in the Wendover area	Construction	Permanent loss of three ponds within the land required for the construction of the Proposed Scheme. One pond is adjacent to land required for construction of the Proposed Scheme but is within 25m - as part of a precautionary assessment it is assumed this will also be lost.	Yes
CFA10	Orchard	Traditional orchard habitat of principal importance north of Nash Lee Road	Construction	Permanent loss of 0.8ha of orchard habitat (8% of the orchard).	Yes
CFA10	Orchard	Traditional orchard habitat of principal importance at Road Barn Farm	Construction	Permanent loss of 0.5ha of orchard habitat (100% of the orchard).	Yes
CFA10	Bats	Brown long-eared bat population utilising roosts at Hartley Farm	Construction	Low numbers of bats (1-5) present at two roosts adjacent to the land required for the construction of the Proposed Scheme. Potential disturbance to commuting and foraging activity.	Yes
CFA10	Bats	Brown long-eared bat population utilising roosts at Hartley Farm	Operation	Risk of incidental killing of small numbers of bats caused by collision with trains.	No
CFA10	Birds	Breeding bird assemblage associated with habitats north-west of Wendover	Construction	Loss of open countryside and woodland habitat north-west of Wendover will reduce breeding and foraging habitat for this bird assemblage. There will be a localised decrease in the diversity and abundance of common bird species.	No
CFA10	Birds	Breeding bird assemblage associated with habitats north-west of Wendover	Operation	Incidental mortality of small numbers of birds associated with in line-side habitats.	No

CFA10	Birds	Breeding bird assemblage associated with habitats south-west of Wendover	Construction	Loss of open countryside and woodland habitat north-west of Wendover will reduce breeding and foraging habitat for this bird assemblage. There will be a localised decrease in the diversity and abundance of common bird species.	No
CFA10	Birds	Breeding bird assemblage associated with habitats south-west of Wendover	Operation	Incidental mortality of small numbers of birds associated with in line-side habitats.	No
CFA10	Birds	Breeding bird assemblage associated with habitats west of Wendover	Construction	Loss of open countryside and woodland habitat north-west of Wendover will reduce breeding and foraging habitat for this bird assemblage. There will be a localised decrease in the diversity and abundance of common bird species.	No
CFA10	Birds	Breeding bird assemblage associated with habitats west of Wendover	Operation	Incidental mortality of small numbers of birds associated with in line-side habitats.	No
CFA10	Birds	Wintering bird assemblage associated with habitats throughout the area	Construction	Loss of open countryside and woodland habitat throughout the area. Temporary habitat loss and disturbance during construction and reduction of foraging habitat.	Yes
CFA10	Amphibians	Great crested newt population at Hartley Farm	Construction	A small breeding population of great crested newts (peak count 4) will be removed.	Yes
CFA10	Reptiles	A grass snake population at the orchard north of Nash Lee Road	Construction	Field surveys recorded one grass snake and desk study records show three records within 1km of the land required for the construction of the Proposed Scheme. Potential loss of habitat and fragmentation of populations, leading to reduced abundance.	Yes
CFA10	Badger	Setts near Wendover Dean	Construction	A single annex sett will be removed and small areas of foraging habitat will be lost.	Yes
CFA10	Badger	Setts near Wendover Dean	Operation	Risk of incidental mortality of badgers as a result of collision with passing trains.	Yes
CFA10	Aquatic invertebrates	The southern branch of the Stoke Brook	Construction	Over 1km of the brook is within the land required for the construction of the Proposed Scheme. Bankside aquatic vegetation used for foraging and sheltering will be removed.	Yes

CFA10	Fish	Fish populations within the Stoke Brook and its tributaries	Construction	Field surveys recorded no fish at Stoke Brook, and few fish in one of its tributaries. Bankside aquatic vegetation used for foraging and sheltering will be removed for a about 1km of this watercourse.	Yes
CFA11	Ditch	Ditches at Stoke Farm and Putlowes Farm	Construction	Small areas of wetland vegetation, grassland and scrub will be removed from several ditches during construction.	Yes
CFA11	Ditch	Lower Hartwell Ditch (and other linked ditches) at Aylesbury Park Golf Course	Construction	Small areas of wetland vegetation, grassland and scrub will be removed from approximately 800m of this ditch.	Yes
CFA11	Ditch	Hartwell Ditch at Aylesbury Park Golf Club	Construction	Small areas of wetland vegetation, grassland and scrub will be removed from approximately 500m of this ditch.	Yes
CFA11	Watercourse	Sedrup Ditch	Construction	Small areas of wetland vegetation, grassland and scrub will be removed from approximately 1km of this ditch.	Yes
CFA11	Watercourse	Stoke Brook	Construction	Scrub, grassland and small areas of wetland vegetation will be removed from the Stoke Brook which will be culverted under the Proposed Scheme. The morphology of the channel will be altered.	Yes
CFA11	Scrub	Mature scrub community at Aylesbury Park Golf Club	Construction	Permanent loss of approximately 0.1ha of scrub.	Yes
CFA11	Grassland	Several patches of semi-improved neutral grassland within Aylesbury Park Golf Club	Construction	Permanent loss of approximately 2ha of grassland.	Yes
CFA11	Grassland	Semi-improved neutral grassland at Stoke House Farm	Construction	Permanent loss of approximately 3.0ha of grassland.	Yes
CFA11	Grassland	Semi-improved neutral grassland at Whitethorn Farm	Construction	Permanent loss of 0.5ha of grassland.	Yes
CFA11	Grassland	Semi-improved neutral grassland at land north of Hartwell House	Construction	Permanent loss of approximately 7ha of grassland.	Yes
CFA11	Grassland	Semi-improved neutral grassland at Putlowes Farm	Construction	Loss of about 12ha of grassland.	Yes

CFA11	Grassland	Grassland with scattered trees at Aylesbury Park Golf Club and Hartwell House	Construction	Approximately 3ha of grassland will be removed.	Yes
CFA11	Woodland	Several small isolated patches of plantation broadleaved woodland throughout Aylesbury Park Golf Club	Construction	Permanent loss of approximately 4ha of woodland.	Yes
CFA11	Woodland	30m wide linear semi-natural broadleaved woodland that extends north from the Fleet Marston Spinney	Construction	Loss of 0.5ha of woodland.	Yes
CFA11	Pond	Ponds at Putlowes Farm	Construction	Permanent loss of two ponds.	Yes
CFA11	Pond	Ponds at Aylesbury Park Golf Course	Construction	Permanent loss of eight ponds.	Yes
CFA11	Arable	Arable land throughout this area	Construction	About 170ha of arable land will be required for construction of the Proposed Scheme.	Yes (where reverted to agriculture) No (small areas under permanent infrastructure)
CFA11	Reptiles	Grass snake population between the A41 and Upper Cranwell Farm	Construction	Loss of foraging, basking and sheltering habitat relating to this small population.	Yes
CFA11	Birds	Breeding bird assemblage associated with habitats around Aylesbury and Stoke Mandeville	Construction	Loss of open countryside and associated hedgerows south of Aylesbury will reduce nesting and foraging habitat resulting in a localised decrease in the diversity and abundance of common bird species.	Yes
CFA11	Birds	Breeding bird assemblage associated with habitats around Aylesbury and Stoke Mandeville	Operation	Incidental mortality of small numbers of birds associated with in line-side habitats.	No
CFA11	Birds	Wintering birds at Stoke Mandeville to Aylesbury	Construction	Loss of woodland and open countryside from Stoke Mandeville to Aylesbury will result in temporary loss of foraging and roosting habitat.	Yes
CFA11	Aquatic invertebrates	Invertebrate assemblage of the Stoke Brook and tributaries	Construction	Approximately 1km of the Stoke Brook is within the land required for the construction of the Proposed Scheme. Removal of small areas of bankside aquatic vegetation will reduce foraging and sheltering habitat.	Yes

CFA11	Fish	Fish population of the Stoke Brook and tributaries	Construction	Approximately 1km of the Stoke Brook is within the land required for the construction of the Proposed Scheme. Removal of bankside aquatic vegetation will reduce foraging and sheltering habitat.	Yes
CFA11	Badger	Badger populations throughout this area.	Construction	Two main setts will be removed (from two different territories). A single annex sett, a single subsidiary sett and 14 outlier setts will also be removed. Large areas of badger foraging habitat will be removed from both of the above territories and also a third territory (where no sett loss will occur).	Yes
CFA11	Badger	Badger populations throughout this area.	Operation	Risk of incidental mortality of badgers as a result of collision with passing trains.	Yes
CFA12	Grassland	Semi-improved neutral grassland near Oak Tree Farm.	Construction	About 5.0ha of semi-improved grassland will be removed.	Yes
CFA12	Grassland	Improved grassland throughout this area.	Construction	About 110ha of improved grassland is found throughout this area, and is within or adjacent to the land required for the construction of the Proposed Scheme.	Yes (where reverted to agriculture) No (small areas under permanent infrastructure)
CFA12	Grassland	Poor semi-improved grassland	Construction	About 40ha of grassland will be removed.	Yes (where reverted to agriculture) No (small areas under permanent infrastructure)
CFA12	River	The River Ray	Construction	Scrub, grassland and small areas of wetland vegetation will be removed from about 1km of this river.	Yes
CFA12	River	Fleet Marston Brook	Construction	Scrub, grassland and small areas of wetland vegetation will be removed from about 0.5km of this watercourse.	No
CFA12	Pond	Ponds at Waddeston	Construction	Three ponds will be removed. All of which qualify as a habitat of principal importance as they support great crested newt.	Yes

CFA12	Pond	Ponds at near Woodlands Farm	Construction	Eight ponds will be lost some of which qualify as a habitat of principal importance as they support great crested newt.	Yes
CFA12	Pond	Ponds in farmland between Waddeston and Quainton.	Construction	23 ponds will be removed some of which may qualify as a habitat of principal importance as they may support great crested newt.	Yes
CFA12	Scrub	Scrub along the Aylesbury Link railway line and nearby River Ray corridor.	Construction	About 2ha of dense scrub habitat will be removed.	Yes
CFA12	Orchard	A small area of traditional orchard near Woodlands Farm.	Construction	0.6ha of orchard habitat will be removed.	No
CFA12	Arable	Throughout this area	Construction	140ha of arable land will be required for construction of the Proposed Scheme.	Yes (where reverted to agriculture) No (small areas under permanent infrastructure)
CFA12	Invertebrates	Invertebrate assemblage associated with the BBOWT Finemere Wood nature reserve.	Construction	Small areas of grassland will be removed from Finemere Woods BBOWT reserve resulting in loss of foraging and sheltering habitat for invertebrates.	Yes
CFA12	Birds	Breeding bird assemblage north-west of Quainton.	Construction	Loss of arable fields, scrub and hedgerows will reduce nesting and foraging habitat resulting in a localised decrease in the diversity and abundance of common bird species.	Yes
CFA12	Birds	Breeding bird assemblage north-west of Quainton.	Operation	Incidental mortality of small numbers of birds associated with in line-side habitats.	No
CFA12	Birds	Wintering bird assemblage associated with land near Waddesdon and Quainton.	Construction	Loss of arable fields, scrub and hedgerows will reduce foraging habitat for wintering birds.	Yes
CFA12	Reptiles	Assemblage of common reptiles near Glebe Farm, Wayside Farm and Bucks Railway Centre in the south of this area.	Construction	Small to medium populations of grass snake and common lizard were recorded at these locations all of which were close to one another. Foraging, basking and sheltering habitat will be removed.	Yes
CFA12	Aquatic Invertebrates	Aquatic invertebrates in the Fleet Marston Brook.	Construction	Loss of aquatic vegetation on river banks used for foraging and sheltering.	Yes

CFA12	Aquatic Invertebrates	Aquatic invertebrates in the River Ray.	Construction	Loss of aquatic vegetation on river banks used for foraging and sheltering.	Yes
CFA12	Aquatic Invertebrates	Aquatic invertebrate assemblage at the Muxwell Brook.	Construction	Loss of aquatic vegetation on river banks used for foraging and sheltering.	Yes
CFA12	Plants	Common Gromwell.	Construction	Loss of habitat which potentially supports this plant species.	Yes
CFA12	Badger	Badger populations near Sheephouse Wood, Calvert, Quainton, Woodlands Farm and Waddesdon.	Construction	Three badger territories will be affected. This will include loss of two main setts and a third will be surrounding by the scheme. An annex will also be surrounded by the scheme. A further subsidiary sett and nine outlier setts will be removed. Badger foraging habitat will be removed from all three territories.	Yes
CFA12	Badger	Badger populations near Sheephouse Wood, Calvert, Quainton, Woodlands Farm and Waddesdon.	Operation	Risk of incidental mortality of badgers as a result of collision with passing trains.	Yes
CFA13	Woodland	Lowland mixed deciduous woodland in the Calvert area: around the margins of Calvert Brick Pits LWS; in a single stand south-east of Steeple Claydon; and either side of the Proposed Scheme south-east of Calvert.	Construction	Approximately 2.5 ha of semi-natural broadleaved woodland will be removed.	Yes
CFA13	Woodland	Semi-natural broadleaved woodland at Moat Farm in Goddington.	Construction	Loss of about 1.0ha of broadleaved woodland.	Yes
CFA13	Woodland	Woodland near Manthorn Farm, Chetwode.	Construction	Permanent loss of about 1.0ha of semi-natural broadleaved woodland.	Yes
CFA13	Woodland	Woodland near Manor Farm, Barton Hartshorn.	Construction	Permanent loss of approximately 0.5ha of semi-natural broadleaved woodland.	Yes
CFA13	Woodland	Plantation broadleaved woodland, north and east of Calvert Jubilee Nature Reserve LWS.	Construction	Permanent loss of approximately 1.5ha of plantation broadleaved woodland.	Yes
CFA13	Grassland	Poor semi-improved grassland at the Railway Cutting North of Twyford BNS.	Construction	Permanent loss of approximately 1ha of poor semi-improved grassland.	Yes

CFA13	Grassland	Grassland running along the disused railway adjacent to Railway Cutting North of Twyford.	Construction	A linear strip of grassland, approximately 1ha is within the land required for the Proposed Scheme, and will be subject to removal.	Yes
CFA13	Scrub	Scrub at the Railway Cutting North of Twyford BNS.	Construction	Approximately 2.0ha of scrub will be removed.	Yes
CFA13	Scrub	Scrub habitat near Portway Farm, Steeple Claydon.	Construction	Removal of about 0.5ha of scrub.	Yes
CFA13	Scrub	Scrub habitat near the Hermitage, Chetwode.	Construction	Removal of about 0.5ha of scrub.	Yes
CFA13	Scrub	Scrub habitat along the Padbury Brook near Twyford.	Construction	Removal of about 0.5ha of scrub.	Yes
CFA13	Scrub	Scrub at the Former GCML disused Railway Cutting between Twyford and Newton Purcell.	Construction	Approximately 1ha of scrub habitat will be removed.	Yes
CFA13	Pond	Ponds near Twyford	Construction	At least seven will be removed	Yes
CFA13	Pond	Ponds near Barton Hartshorn	Construction	At least six ponds will be removed.	Yes
CFA13	Pond	Ponds near Goddington	Construction	At least seven ponds will be removed.	Yes
CFA13	Pond	Ponds near Calvert	Construction	At least nine ponds will be removed.	Yes
CFA13	River	Tributaries of Padbury Brook adjacent to Twyford and at Barton Hartshorn	Construction	Scrub, grassland and small areas of wetland vegetation will be removed.	Yes
CFA13	Arable	Arable field margin south of Preston Bissett and north of Calvert.	Construction	Permanent loss of 1km of arable field margin which is managed for wildlife.	No
CFA13	Bats	Common pipistrelle, soprano pipistrelle and brown long-eared bat populations associated with Twyford	Construction	Loss of foraging habitat (grassland and hedgerows).	Yes
CFA13	Bats	Common pipistrelle, soprano pipistrelle and brown long-eared bat populations associated with Twyford	Operation	Risk of killing of small numbers of bats caused by collisions with trains.	No

CFA13	Birds	The assemblage of breeding birds south-east of Twyford	Construction	The loss of open countryside and woodland habitat throughout the area will result in a reduction in foraging and nesting habitat and a localised decline in the diversity and abundance of common bird species.	Yes
CFA13	Birds	The assemblage of breeding birds south-east of Twyford	Operation	Incidental mortality of small numbers of birds associated with in line-side habitats.	No
CFA13	Birds	The assemblage of breeding birds near Chetwode	Construction	The loss of open countryside and woodland habitat throughout the area will result in a reduction in foraging and nesting habitat and a localised decline in the diversity and abundance of common bird species.	Yes
CFA13	Birds	The assemblage of breeding birds near Chetwode	Operation	Incidental mortality of small numbers of birds associated with in line-side habitats.	No
CFA13	Birds	Wintering bird assemblage associated with farmland near Chetwode and Goddington.	Construction	The loss of open countryside and woodland habitat throughout the area will result in a reduction in foraging habitat and a localised decline in the abundance of common bird species.	Yes
CFA13	Otter	The otter population at Calvert Jubilee LWS & Calvert Brick Pits LWS.	Construction	Terrestrial habitat used by otter to move between water bodies will be removed.	Yes
CFA13	Fish	Fish population in tributaries of Padbury Brook and minor watercourses	Construction	Removal of small areas of aquatic vegetation on river banks may reduce foraging and sheltering opportunities for fish.	Yes
CFA13	Badger	Five badger social groups in the area.	Construction	At least four badger territories will be affected by sett loss: four main setts will be removed and a total of four subsidiary setts and 13 outlying setts. Foraging habitat for a fifth badger territory will be removed.	Yes
CFA13	Badger	Five badger social groups in the area.	Operation	Risk of incidental mortality of badgers as a result of collision with passing trains.	Yes
CFA13	Aquatic invertebrates	Aquatic invertebrate assemblage in tributaries of the Padbury Brook	Construction	Removal of small areas of aquatic vegetation on river banks may reduce foraging and sheltering opportunities.	Yes
CFA14	Watercourse	Radstone Brook	Construction	Bankside aquatic vegetation will be removed from approximately 550m of this brook.	Yes

CFA14	Watercourse	Mixbury Brook	Construction	Riparian vegetation will be removed from approximately 150m of the brook.	No
CFA14	Watercourse	Several unnamed drainage ditches north-east of Newton Purcell	Construction	Scrub, grassland and small areas of wetland vegetation will be removed from approximately 800m of drainage ditch.	Yes
CFA14	Watercourse	Several unnamed drainage ditches west of Radstone	Construction	Scrub, grassland and small areas of wetland vegetation will be removed from approximately 200m of drainage ditch.	Yes
CFA14	Woodland	Semi-natural broadleaved woodland on the former railway (Old LNER) near Finmere Quarry between Newton Purcell and Westbury	Construction	Approximately 15ha of woodland will be removed.	Yes
CFA14	Woodland	Two woodland blocks of semi-natural broadleaved woodland near Mossycorner Spinney, east of Mixbury	Construction	Approximately 0.5ha of woodland will be removed.	Yes
CFA14	Woodland	Unnamed wood south of Radstone	Construction	Approximately 0.5ha of woodland will be removed.	Yes
CFA14	Woodland	Six small plantation broadleaved woodlands east and south-east of Turweston	Construction	Approximately 1.0ha of woodland will be removed.	Yes
CFA14	Grassland	Semi-improved neutral grassland within Helmdon Disused Railway SSSI (a non-designated feature of the SSSI)	Construction	Approximately 0.5ha of semi-improved neutral grassland will be removed.	Yes
CFA14	Grassland	Semi-improved neutral grassland to the north-east of Newton Purcell	Construction	Approximately 0.5ha of semi-improved neutral grassland will be removed.	Yes
CFA14	Grassland	Semi-improved neutral grassland to the west of Westbury	Construction	Approximately 0.5ha of grassland will be removed.	Yes
CFA14	Grassland	Semi-improved neutral grassland to the south of Radstone	Construction	Approximately 4ha of grassland will be removed.	Yes
CFA14	Wetland	Swamp vegetation at Helmdon Disused Railway SSSI (a non-designated feature of the SSSI)	Construction	Swamp vegetation lies adjacent to land required for the construction of the Proposed Scheme. As part of a precautionary assessment it is assumed that construction of Brackley south cutting will affect water levels and result in loss of vegetation.	Yes

CFA14	Wetland	Swamp in a field to the south of Helmdon Disused Railway SSSI	Construction	Swamp vegetation lies adjacent to land required for the construction of the Proposed Scheme. As part of a precautionary assessment it is assumed that construction of Brackley south cutting will affect water levels and result in loss of vegetation.	Yes
CFA14	Scrub	Dense scrub in and around Helmdon Disused Railway SSSI (a non-designated feature of the SSSI)	Construction	Permanent loss of approximately 0.5ha of dense scrub.	Yes
CFA14	Scrub	Dense scrub on the former railway (Old LNER) near Finmere Quarry between Newton Purcell and Westbury	Construction	Permanent loss of up to 15ha of scrub.	Yes
CFA14	Grassland	Open mosaic habitat at land between Newton Purcell and Finmere	Construction	Loss of approximately 2ha of open mosaic habitat.	No
CFA14	Pond	Ponds near Finmere	Construction	Eight ponds will be removed.	Yes
CFA14	Bats	Brown long-eared bat populations at Warren Farm.	Construction	Field surveys recorded two summer/transient roosts which contained low numbers of bats, estimated to be between one and five individuals. The roost will be retained but there will be loss of foraging and commuting habitat along the disused railway.	Yes
CFA14	Bats	Brown long-eared bat populations at Warren Farm.	Operation	Risk of killing of small numbers of bats caused by collision with passing trains.	No
CFA14	Fish	Fish assemblages at a tributary of the River Great Ouse	Construction	Removal of bankside aquatic vegetation will reduce foraging and sheltering habitat.	Yes
CFA14	Fish	Fish assemblages at a tributary of Padbury Brook	Construction	Removal of bankside aquatic vegetation will reduce foraging and sheltering habitat.	Yes
CFA14	Birds	Populations of breeding birds south-east of Brackley	Construction	The loss of open countryside and woodland habitat throughout the area will result in a reduction in foraging and nesting habitat and a localised decline in the diversity and abundance of common bird species.	Yes
CFA14	Birds	Populations of breeding birds south-east of Brackley	Operation	Incidental mortality of small numbers of birds associated with in line-side habitats.	No

CFA14	Birds	Populations of breeding birds north-west of Finmere and south-west of Finmere	Construction	The loss of open countryside and woodland habitat throughout the area will result in a reduction in foraging and nesting habitat and a localised decline in the diversity and abundance of common bird species.	Yes
CFA14	Birds	Populations of breeding birds north-west of Finmere and south-west of Finmere	Operation	Incidental mortality of small numbers of birds associated with in line-side habitats.	No
CFA14	Birds	Assemblages of wintering birds between Newton Purcell and Brackley	Construction	The loss of open countryside and woodland habitat throughout the area will result in a reduction in foraging habitat and a localised decline in the abundance of common bird species.	Yes
CFA14	Amphibians	Great crested newt breeding pond at Warren Farm.	Construction	Loss of foraging and sheltering habitat used by a small population of great crested newt (the breeding pond will not be affected).	Yes
CFA14	Reptiles	Population of grass snake at Warren Farm	Construction	Loss of foraging and basking habitat for a small population of grass snake.	Yes
CFA14	Aquatic macro-invertebrates	Aquatic macro-invertebrates associated with River Great Ouse and tributaries	Construction	Removal of bankside aquatic vegetation used for foraging and sheltering.	Yes
CFA14	Badgers	Badger populations throughout the area	Construction	Parts of at least four badger territories overlap the land required for construction of the Proposed Scheme. A single subsidiary sett will be removed. Grassland and woodland foraging habitat will be removed.	Yes
CFA14	Badgers	Badger populations throughout the area	Operation	Risk of incidental mortality of badgers as a result of collision with passing trains.	No
CFA14	Plants	Notable plant species along and near the disused railway which may include: native black poplar and silver hair grass.	Construction	Woodland, woodland edge and grassland habitat which may support these species could be removed.	No
CFA14	Plants	Notable plant species near Finmere which may include: native black poplar, common whitebeam and squirreltail fescue.	Construction	Woodland, woodland edge and grassland habitat which may support these species could be removed.	No

CFA14	Plants	Notable plant species near Turweston, which may include: night-flowering catchfly, upright goosefoot, stinking camomile and dwarf spurge.	Construction	Arable edge and grassland habitat which may support these species could be removed.	No
CFA15	Watercourse	Highfurlong Brook.	Construction	Riparian vegetation will be removed from approximately 80m of the brook.	Yes
CFA15	Watercourse	Culworth Brook, both channels	Construction	Riparian vegetation will be removed from approximately 0.1km of the brook.	Yes
CFA15	Watercourse	Boddington Canal Feeder	Construction	Riparian vegetation will be removed from approximately 0.7km of the canal feeder.	No
CFA15	Woodland	Woodland near Culworth	Construction	Approximately 0.7ha of woodland will be removed.	Yes
CFA15	Woodland	Woodland near Aston le Walls	Construction	Approximately 0.7ha of woodland will be removed.	Yes
CFA15	Woodland	Woodland near Lower Boddington	Construction	Approximately 0.6ha of woodland will be removed.	Yes
CFA15	Grassland	Species-poor neutral grassland, at Aston le Walls Disused Railway LWS	Construction	Approximately 0.6ha of grassland habitat will be removed.	Yes
CFA15	Pond	Pond near Greatworth	Construction	A single pond will be lost.	Yes
CFA15	Pond	Ponds near Thorpe Mandeville	Construction	Five ponds will be lost. One is a habitat of principal importance because it contains great crested newts.	Yes
CFA15	Pond	Pond near Edgecote	Construction	Loss of one pond.	Yes
CFA15	Pond	Ponds near Aston le Walls	Construction	Three ponds will be lost.	Yes
CFA15	Pond	Ponds near Lower Boddington	Construction	Four ponds will be removed. Two contain great crested newts and thus qualify as a habitat of principal importance.	Yes
CFA15	Pond	Ponds near Greatworth	Construction	Permanent loss of three ponds within the land required for the construction of the Proposed Scheme.	Yes
CFA15	Pond	Ponds near Thorpe Mandeville	Construction	Permanent loss of up to ten ponds within the land required for the construction of the Proposed Scheme. One of which is a habitat of principal importance because it contains great crested newts..	Yes

CFA15	Pond	Ponds near Edgecote	Construction	Permanent loss of three pond within the land required for the construction of the Proposed Scheme.	Yes
CFA15	Pond	Ponds near Aston le Walls	Construction	Permanent loss of four ponds within the land required for the construction of the Proposed Scheme.	Yes
CFA15	Pond	Ponds near Lower Boddington	Construction	Permanent loss of nine ponds within the land required for the construction of the Proposed Scheme, two of which are a habitat of principal importance because they contain great crested newts..	Yes
CFA15	Bats	Common pipistrelle population at Fox Covert (Glyn Davies Wood)	Construction	Roost will be retained but 2ha of woodland foraging habitat will be removed in Fox Covert (Glyn Davies Wood). Commuting flight paths will also be removed.	Yes
CFA15	Bats	Common pipistrelle population at Fox Covert (Glyn Davies Wood)	Operation	Risk of killing of small numbers of bats caused by collision with passing trains.	No
CFA15	Bats	Brown long-eared bat population at Fox Covert (Glyn Davies Wood)	Construction	Roost will be retained but 2ha of woodland foraging habitat will be removed from Fox Covert (Glyn Davies Wood). Commuting flight paths will also be removed.	Yes
CFA15	Bats	Brown long-eared bat population at Fox Covert (Glyn Davies Wood)	Operation	Risk of killing of small numbers of bats caused by collision with passing trains.	No
CFA15	Birds	Assemblage of of breeding birds south-east of Radstone.	Construction	The loss of open countryside and woodland habitat throughout the area will result in a reduction in foraging and nesting habitat and a localised decline in the diversity and abundance of common bird species.	Yes
CFA15	Birds	Assemblage of of breeding birds south-east of Radstone.	Operation	Incidental mortality of small numbers of birds associated with in line-side habitats.	No
CFA15	Birds	Assemblage of wintering birds at Greatworth and Lower Boddington.	Construction	The loss of open countryside and woodland habitat throughout the area will result in a reduction in foraging habitat and a localised decline in the diversity and abundance of common bird species.	Yes

CFA15	Birds	Assemblage of breeding birds south-west of Sulgrave.	Construction	The loss of open countryside and woodland habitat throughout the area will result in a reduction in foraging and nesting habitat and a localised decline in the diversity and abundance of common bird species.	Yes
CFA15	Birds	Assemblage of breeding birds south-west of Sulgrave.	Operation	Incidental mortality of small numbers of birds associated with in line-side habitats.	No
CFA15	Birds	Assemblage of breeding birds east of Greatworth.	Construction	The loss of open countryside and woodland habitat throughout the area will result in a reduction in foraging and nesting habitat and a localised decline in the diversity and abundance of common bird species.	Yes
CFA15	Birds	Assemblage of breeding birds east of Greatworth.	Operation	Incidental mortality of small numbers of birds associated with in line-side habitats.	No
CFA15	Reptiles	Grass snake at Welsh Lane (north of Greatworth)	Construction	Loss of foraging and basking habitat.	Yes
CFA15	Reptiles	Grass snake at land south-west of Wormleighton (west of Lower Boddington)	Construction	Loss of foraging and basking habitat.	Yes
CFA15	Aquatic macro-invertebrates	Aquatic invertebrate assemblages at the Highfurlong Brook, Boddington Canal Feeder and several drainage ditches.	Construction	Loss of bankside aquatic vegetation will result in removal of foraging and sheltering habitat.	Yes
CFA15	Fish	Fish assemblages at River Cherwell, Highfurlong Brook and Boddington Canal Feeder	Construction	Loss of bankside aquatic vegetation will result in removal of foraging and sheltering habitat.	Yes
CFA15	Badger	Badger populations	Construction	At least two badger territories will be affected. Two main setts will be lost, one subsidiary sett and two annexe setts will also be lost.	Yes
CFA15	Badger	Badger populations	Operation	Risk of incidental mortality of badgers as a result of collision with passing trains.	Yes
CFA15	Flora	Corn spurrey near Halse Copse South (corn spurrey not found during field surveys but access was not possible to all areas and as a precaution it is assumed it may be present).	Construction	Farmland which may support this species will be removed.	No